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ANNUAL BANQUET OF THE ALUMNI ASSOCIATION

Looking toward the New Technology—President lays emphasis on need of healthy social activity—Fund Committee appointed

Conditions attending the annual banquet of the Alumni Association, which was held at Hotel Somerset, January 3, were vastly different from any of its predecessors. No longer any doubt existed as to the future of the Institute; it had secured funds sufficient to warrant the purchase of a new site and the building of a new home and had established a policy in which Corporation, Faculty and alumni are in perfect accord.

President Maclaurin's promise at the banquet a year ago, that the site problem would be settled before another year had rolled around, was fulfilled, and such a strong feeling of optimism prevailed that when the President told of the movement already inaugurated to raise a great alumni fund for the new Technology, he was greeted with enthusiastic applause.

There were more than three hundred men at the banquet which was enlivened with songs and cheers. Just after President Maclaurin's speech, Chorister George B. Glidden, '93, led the congregation in singing,—

"Shall we meet beyond the river
Where the surges cease to roll?"

In his speech which is given in full elsewhere, President Maclaurin referred to the social question and to the difficul-

ties attending the planning for a new institution. Referring to these matters he said:

"Then there is the social question, one of the most important and one that has been answered less satisfactorily in the past than any of the other great questions with which Technology has been confronted. Some provision must be made to facilitate a healthy social activity amongst the students. We must have student houses and we must also have as the common centre a Walker Memorial in every way worthy of that great humanist. Last, but by no means least, there is the architectural question. If we do not rise to the level of this great question we will commit a crime against Technology students for generations to come and a crime against the whole community in which they live and move.

"Ours is a unique opportunity and unique responsibility," said Doctor Maclaurin, in conclusion. "We are building, if not for all time, at least for a time that must seem long in the life of any individual. The Institute itself will never die, and for many a generation must carry in its outward form the impress that we put upon it now. What is that impress to be? Will it adequately express the ideals of the Institute, the nobility of its purpose and the dignity of its work?"

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Will those ideals be presented as impressively and as beautifully as by the towers and spires and other architectural features characteristic of the great churches of the Middle Ages? If they do not, it will be a permanent slur on our intelligence and on our taste, for the ideal of education for which the Institute stands is as noble an ideal as any that can be expressed by form, and it is preeminently the ideal of the thoughtful section of the American people today."

Dr. Maclaurin called special attention to the alumni fund soon to be raised for building purposes. He had been requested to announce the names of the committee appointed by the Alumni Council as follows: Everett Morss, '85, chairman; A. T. Bradley, '88; F. H. Fay, '93; Edwin S. Webster, '88; James W. Rollins, '78; I. W. Litchfield, '85, secretary.

The next speaker was Gen. William H. Bixby, '70, chief of engineers of the U. S. Army, who indulged in several reminiscences of his life as a student at the Institute and told something of the work of the army engineer. He said that one of the first steps towards the utilization of existing and future improved harbors and waterways should be a general movement by all large cities and harbor towns toward municipal control of wharfs and docks and for the construction of terminal and transfer facilities. He advised municipalities to gain control of wharfage locations to such an extent that when the time comes to build docks, there shall be ample room for carrying out such projects and when built they shall be available to the general public at moderate rates and unrestricted by monopoly.

Mr. E. Dana Durand, director of the U. S. Census, referred to the work of that bureau, more especially with regard to immigration into this country. He said the time will come when we shall have to force immigrants to go to the farms where they are needed rather than to cities where they form the lower stratum. He advised New England to work for the restriction of immigration and for the divergence of foreign newcomers to other countries.

C.-E. A. Winslow, '98, associate pro-

fessor of biology at the College of the City of New York, and curator of public health at the American Museum of Natural History, brought a greeting from the Technology Club of New York. The club, he said, was proud of its membership of 550, of its clubhouse, and, most of all, of its Technology good fellowship. The keynote of the present meeting was obviously the same as that formulated by President Noyes on an earlier occasion,—the old Technology, with its old ideals, new built on a new site. Tech spirit cannot be defined. It is known by its fruits. The man with the Tech spirit is the man who does the work that is set before him to do,—as Rogers did when he saw the vision of a great school of Technology and made it real; as Walker did when he carried the Institute through days of hardship and privation and made it strong and sure; as Noyes did when he left his laboratory for the presidency and left the presidency for his laboratory, going each time, with no thought of self, where he was needed most. There is no monopoly of this spirit. Like draws to like, and when Maclaurin came to us from Scotland and New Zealand, we recognized in him the spirit of our leaders. Tonight he comes to tell us that the first task set for him, the finding of a place where the ideals of the Institute may be embodied, in worthy material form, is done.

One cannot walk over the new site, less by only two acres than the area of Boston Common, with a water front along which the whole student body may stand in a single line to watch the boat races, without seeing visions and dreaming dreams,—dreams of Grecian façades (or of Gothic towers, perhaps), of a noble Walker Memorial, of swimming tank and gymnasium and dormitories. One dreams of a student life as far ahead of the present fine and manly and pleasant student life as that in itself has gone beyond the all work and no play which for some seems the dominant note of an earlier day. The student of the new Technology will catch from his surroundings a largeness and beauty that his predecessors missed, though he can scarcely feel for

her a love stronger than ours for our sterner parent.

With all this, Technology will always remember that buildings and equipment exist only for the men who use them and no externals will divert her from her aim, the training by example as well as by precept, of men to do men's work in the world. In the great words of Rogers, "and thus our degree stands fast and those who reach it must reach it through the same growth of continual ascent and labor."

The future of the great biological experiment we call civilization, rests with Science. As Osler says in his preface to the life of Pasteur "more and more she will control the destinies of the nations. Already she has them in her crucible and on her balances." The new Technology will stand at the heart of the new Boston and the new Massachusetts. She will train men to build and maintain bridges and railroads and docks, to save fuel and power, to work the wonders of industrial chemistry, to conserve forests and water and soil fertility and human life and health. She must meet the demands for organizers of industry by working out on a broad plan the department of engineering administration which the Faculty has in mind and which is the most important educational question before the Institute

today. Above all she must more and more instill into her sons a sense of responsibility for the larger common affairs that transcend the field of purely professional service. Our country faces grave problems, problems of economic segregation, problems of racial inequality and racial prejudice. There can be no true Commonwealth if some grow so powerful as

to group more than their share of privilege or if some are so weak, by nature, or through the force of economic pressure, that they bear no just burden of responsibility. We, who stand for applied science, hold the key to the situation. Straight thinking and co-operative working are needed, and to these things the technical graduate is trained. Only his mind must be set, not only on bridge building, but on state building too. The student of the new Technology must feel that it is for him to spread as Arnold said, a belief in right reason and a firm intelligible law of things and in all the fields of human



Gen. W. H. Bixby, '70

life and thought to make that reason and that law prevail.

President Noyes of the Alumni Association then briefly reviewed the principal events in the recent life of the association and referred to the matters accomplished and under discussion during the past year. At the close of his remarks he introduced the new president, James W. Rollins, '78.

A Noted Woman Physician

One of the most noted among the women who have been students at the Institute is Clara Emerett Gary, M. D., president of the National Society of Physical Therapeutics, who has a place of high distinction in the medical world. She was born in Montpelier, Vt., and after being graduated from high school she attended the theological seminary in Chicago. She afterwards became a student at the Institute of Technology and later was graduated from the Boston University School of Medicine in 1885. She is a specialist in electro-therapeutics and nervous diseases. Doctor Gary is a member of the following: American Institute of Homeopathy; Massachusetts Surgical and Gynecological Society; New England Association for Physical Therapeutics; Société Française d' Electro-thérapie, Paris, France; National Society of Physical Therapeutics; one of the founders and ex-president of the Woman's Twentieth Century Medical Club, and president of the Ladies' Physiological Institute of Boston.

Marriage of Doctor Spear

Miss Edith Mendall Taylor, daughter of George Mendall Taylor of Cambridge, was married December 23, by the Rev. Dr. Crowthers to Dr. Elwood B. Spear, professor of Chemistry at the Institute. The best man was Professor W. W. Bray, of the Institute. Doctor and Mrs. Spear will live at Trinity Court, Boston.

The bride is a graduate of Radcliffe, a member of the Boston Authors' Club, and has been connected with the faculty of Wellesley College and of Bryn Mawr. The bridegroom was graduated from Manitoba, Toronto and Heidelberg universities.

Mr. Thomas A. Edison has won new laurels by refraining from making a speech at the dinner of the Massachusetts Institute of Technology. It may turn out that the invention of the talkless guest of honor will constitute one of his worthiest titles to fame.—*New York Sun*.

Technology Club of Puget Sound

The Technology Club of Puget Sound organized for the season early in November and elected the following officers for the coming year: Arthur W. Sawyer, '74, president; Frank Dabney, '75, vice-president, and L. A. Wallon, '04, secretary. The new president is getting right down to business and the club anticipates an interesting winter. After the election of officers the company adjourned to the University of Washington which was celebrating its fiftieth anniversary. It was College Men's Night and Technology showed up strong with some twenty men gathered around a large M. I. T. banner. The men from Boston let the multitude know they were happy and that there was such a place as the Institute of Technology.

Sudden Death of J. R. Bell

John R. Bell, '11, died at Perth Amboy, N. J. December 21, from what physicians diagnosed as hydrophobia. Five weeks before his death Mr. Bell was bitten by a dog and although the animal was killed and the head sent to Trenton, N. J., for examination, the authorities found no signs of the rabies and the patient, therefore, did not take the Pasteur treatment.

Glee Club Sings to Prisoners

The Technology Glee Club recently attended services at the Charlestown State Prison and sang to the prisoners. This is an innovation that is likely to be very popular, certainly with the prisoners of such institutions. The idea was suggested by the Technology Christian Association and gladly taken up by the glee club.

The *Boston Herald* recently devoted a page to "Technology's second moving day" in which reference is made to the new buildings and the new site. The article is a historical one showing how the Institute beginning with fifteen students has finally forced its way to the very front rank in its particular line.

NEW YORK'S SUCCESSFUL BANQUET

Thomas A. Edison guest of the Club—Dr. Maclaurin, Cass Gilbert and Gelett Burgess among the speakers

The Technology Club of New York held the most successful dinner in its history on Saturday, January 13. Lansingh, '98, chairman of the dinner committee, with Abbott, '81, Gardner, '98, King, '94, Shaffer, '10, Spalding, '89, and a number of others had been at work on the plans for weeks and everything went through in true Tech style. Among the 158 diners were such men as J. Waldo Smith, '87, chief engineer of the Board of Water Supply of New York; G. W. Kittredge, '77, chief engineer of the New York Central Railroad; W. H. King, '94, assistant corporation counsel of the city; A. R. McKim, '85, engineer of the State Dam Commission; Henry J. Horn, '88, vice-president of the New York, New Haven & Hartford Railroad; Allen Hazen, '91, the water supply expert, and Cass Gilbert, '79, architect of the Custom House and of the new Woolworth Building. Besides President Maclaurin, who was the chief guest of honor, Major Briggs, '81, Frank Rollins, '81, and Mr. Rand were welcome visitors from Boston.

As the crowd took their seats the lights

went out and an M. I. T. electric sign flashed out in the darkness to be greeted with a mighty, long Tech yell. As quiet was about to be restored newsboys arrived with much noise and a special "extra," *The Tech Push*—night owl edition (Gardner, editor-in-chief) which included the inside history of the menu to be provided, more or less poetic tributes to the speakers of the evening, a preliminary report of the dedication of the new buildings from our Cambridge correspondent and much spicy Tech club gossip. Extracts from *The Push* are published in another column.

After a merry dinner punctuated with songs and cheers, Kittredge arose as toastmaster and announced that there were two ways of doing things, to do them yourself or to make other people do them and

he intended to discharge his duties on the latter plan. He then introduced Billy King, '94, the retiring president, who, after a rousing reception, spoke of the past and future of the club and particularly of the spirit of friendship for which it stands and which means so much in times of trouble or discouragement.



Cass Gilbert, '79

Cass Gilbert, '79, was introduced with the following ditty to the tune of "Tammany."

Tall scrapers high
Watch Gilbert's eye;
Up, up, up, up, up, it goes,
How much higher no one knows.
Just for fun,
Builds biggest one;
Here is hoping that it makes him lots of "mon."

Gilbert, after beginning in lighter vein, spoke of his debt to Technology and its ideals and quoted a striking saying of Professor Ware's, "Remember, young men, if your minds are set on getting rich, that the time between achieving that end and dying may be short; so live by the way." The technically trained man, the speaker said, is the builder of the modern world. Whoever may reap the fruits, he is the maker, and the chief joy of life is his.

Gilbert was interrupted by the entrance of Thomas A. Edison who showed his enthusiasm for the Institute by coming to the dinner, as he had already done in a most effective way by sending his son to be a student there. He manifested a keen appreciation of the song sung in his honor of which one verse ran as follows:

He sends his bright son to Tech,
Here's hoping they don't break his neck;
But father should tell
Is that son doing well,
Or does Course Six make him a wreck.

Gelett Burgess, '87, made a witty speech in which he recalled one of the wizard's early patents on a process for utilizing the energy of the human voice as a source of mechanical power and suggested that the oratorical effort expended in campaigning for the buildings of the new Technology be stored up for heating and lighting them after they are built.

Doctor Maclaurin was greeted with rousing cheers as he arose to speak. He complimented the club on its rapid growth and its brilliant prospects for the future and referred briefly to the important events in the history of Technology during the past year. He showed that although New York as well as other

locations had increased in spirit and in helpfulness, nevertheless Boston men have not been behind in the good work, but on the contrary have spared neither time, effort nor money to secure the wonderful advances that have come to us so recently.

He said there were obvious reasons in dealing with these problems at home, why the load should have been borne



Gelett Burgess, '87

almost entirely by Boston men, but the great problem of building a new Institute which now confronts us was not a local issue. He had not the slightest doubt that the alumni outside of Boston would assume their share of the work willingly and would carry it through to an equally successful conclusion. He thought that the contribution from New York would be worthy of the prestige and the ability of the Technology Club.

President Maclaurin then referred to the good words that have been said about the Institute by the Canadian Commissioners who have recently made a two years' tour of the world and after all this study said of the Institute, "Though many schools have better buildings none have better men. The Massachusetts Institute of Technology is complete and in many respects unique and unquestionably no school in the world is ahead of it." The President spoke of the high praise that had been given to the Institute by Mr. Edison, the guest of the evening, who has given the very strongest proof of his sincerity and faith by sending his own son there.

Doctor Maclaurin then pointed out the difficulties attending the planning of the new buildings, so that when they were completed they would be beautiful and impressive to look upon and so grouped and designed that they would serve to the best advantage for many years to come. He spoke especially of the great need of provision for social life among the students, a point where the Institute is weakest. In closing he said, "But after all, life is more even than work and I believe that Tech men will play an even larger part in the solution of great national problems that lie before us, if during the formative years, they live under conditions that make better for freedom of intercourse and closer personal relations with their fellows."

Death of George W. Blodgett

George W. Blodgett, '73, formerly and for twenty-three years electrical engineer of the Boston & Albany, died recently at his home in Lakewood, N. J., at the age of 62. Mr. Blodgett was born at Guildhall, Vt., and was graduated from the Massachusetts Institute of Technology in the department of civil engineering in 1873. He entered the service of the Boston & Albany in 1880 and had charge of the automatic signals on that road before the signal department was organized. The Boston & Albany had a considerable mileage of automatic signals before the profession of signal engi-

neer had come to be recognized. Mr. Blodgett also had charge of the other electrical work of the company and equipped with electric lights, about 1887, one of the express trains running between New York and Boston, which was one of the first, if not the first, train thus lighted in the country. He lectured on electrical subjects at the Massachusetts Institute of Technology, at Cornell and Columbia Universities and in other institutions. He was a member of the Boston Society of Civil Engineers and the American Institute of Electrical Engineers. After leaving the Boston & Albany, Mr. Blodgett was for five years in the engineering department of the Brooklyn Navy Yard, leaving there for New Jersey in 1908 in the interest of the health of his family. He is survived by a widow and two daughters.

Sudden Death of Nathan J. Gibbs

Nathan J. Gibbs, '06, was instantly killed at Haverstraw, N. Y., December 27, while superintending some blasts at the quarry of the Tompkins Cove Stone Company of that place. Mr. Gibbs was born December 26, 1883, and his 28th birthday occurred the day before he was killed. He attended the Norwich (Conn.) Free Academy before taking the civil engineering course at the Institute. Following the lines of his professional education, Mr. Gibbs was connected with building operations and railroad work until 1906 when he accepted a position with the Isthmian Canal Commission taking charge of making borings and running a boundary survey. He had supervision of constructing a 250-foot dam at Porto Bello and was afterwards in charge of all the surveying work at Porto Bello, laying out tracks, crushers, engine houses, etc. He then became superintendent of the Porto Bello quarries but had to return to the United States because of ill health where he became superintendent of the Tompkins Cove Stone quarry where the fatal accident occurred. He was married July 12, last year, to Miss Emma Grace Wright of Boston.

The Technology Dinner in Philadelphia

President Maclaurin's coming to Philadelphia was celebrated by a banquet at the Walton Hotel on January 20, '84, at which he and Coleman du Pont, '84, were the speakers of the evening. President James Swan, '91, toastmaster, recalled the lack of social activities at the Institute in his day and said that the only thing the students had in common besides hard work was their great love and respect for President Walker. It was this great place which President Maclaurin was now filling in the hearts of Technology men.

General du Pont gave the President the highest praise for his untiring efforts in solving Technology's great problems and notably in his great work in securing the appropriation from the Legislature. He made his address extremely brief, pleading that he had been spending his time doing things instead of saying them and made no claims to being a speaker.

Doctor Maclaurin spoke in highest terms of General du Pont's part in making the change of site an assured fact. One of the most convincing arguments to a Legislature pledged to a policy of economy was that this man, not residing in Massachusetts and not a Massachusetts man, was giving half a million to help the Institute, and certainly the State itself ought to be willing to do its share for its own institution. The President begged all the members to lend him their interest and tell him when he went wrong, thereby aiding in the solution of perhaps the greatest educational problem that could be presented.

Richard Waterman, '92, formerly secretary of the Boston City Club and well known in Philadelphia as the secretary of the City Club here and an accomplished speaker, was called upon for an extemporaneous address and urged the President to consider introducing some sort of a course in "social engineering," a science fully as important nowadays as any other branch of engineering. There was plenty of cheering during the banquet ending up with a rousing "We are

Happy" for "Prexy" just to show that he was already an old friend.

The following officers were elected for the coming year: President, Colonel David A. Lyle, '84; vice-president, Frank H. Keisker, '97; secretary-treasurer, Dudley Clapp, '10; executive committee, Edward P. Trask, '99, Charles F. Willard, '01, Eugene S. Foljambe, '01, William H. Blakeman, '05, and F. B. Wood, '05.—*Dudley Clapp, '10, Secretary, 1421 Arch Street, Philadelphia.*

Death of Daniel C. Hemingray, '79

Daniel Carroll Hemingray, '79, secretary-treasurer of the Hemingray Glass Company, of Covington, Ky., died December 14, a few days after suffering a stroke of paralysis. Mr. Hemingray was one of the best known men in Cincinnati as well as one of the most popular and highly esteemed in the electrical fraternity. He was born in Covington, Ky., in 1857. In high school he was a classmate of President Taft, and after preparation at the Chickering Preparatory School, he entered the Institute of Technology. Since leaving the Institute, he has been identified with his father's business, the Hemingray Glass Company. Mr. Hemingray was a member of the principal clubs in Cincinnati as well as a great number throughout the country, much of his time being spent in traveling in connection with his business. He was a director of the Cincinnati Trust Company and the Suspension Bridge Company, and was one of the original stockholders of the Latonia Race Association.

Noted Visitor from Brazil

The Institute has had for a visiting guest Señor Joao Ferlini, secretary of the College of Engineers, Porto Alegre, Brazil. He has made the tour of the technical institutions of Europe, it being the intention of the government of Brazil to send a number of the best of the students to some foreign institutions to finish their studies.

THE TECH PUSH

WEATHER
Extra Dry—Bump during Evening
unsteady at midnight.

NIGHT OWL EDITION

PRICE
ONE TECH CHEER

EXTRA BRIGHT.

NEW YORK, JANUARY 13, 1912.

EIGHT PAGES.

Heading of eight-page newspaper distributed at New York Banquet

THE NEW TECHNOLOGY OPENS DEDICATION OF NEW BUILDINGS

Honorary degrees for Carnegie, Morgan,
Edison and Rockefeller

ROOSEVELT AND TAFT DEBATE SHERMAN ACT

Gaynor praises the Technology Club of
New York

(From *The Tech Push*)

CAMBRIDGE, Feb. 30.—The magnificent buildings of Technology, on the banks of the Charles River Basin, were today dedicated with appropriate ceremonies. In the afternoon honorary degrees were, for the first time in the history of the Institute, conferred upon certain eminent persons, and in the evening, at a banquet held in the new gymnasium Colonel Roosevelt, President Taft and Mayor Gaynor, discussed the Sherman Act and the Technical Graduate.

The academic procession formed at the old Chapel on Boylston Street at 9.15. Members of the classes of '93 and '98 met there at 10 in the evening preceding in order to be on time and even then many of them had to follow along in hired hacks. The Corporation, Faculty, co-eds, presidents of American colleges and universities, delegates from foreign governments, mayors of Massachusetts cities, governors of states, Pres-

ident Taft, and other presidential candidates, representatives of the Bar, and the bar and delegates from the Technology Club of New York repaired to Rogers steps, where a temporary landing stage had been established, and entered the fleet of biplanes loaned by two alumni, Ovington and Atwood, for the occasion. After the departure of these distinguished guests the main body of the alumni took up the line of march and arrived shortly before the first aeroplanes, which had encountered a head wind and experienced some difficulty in getting down. Professor Currier called out to ask what the matter was and the rapid sound vibrations produced a hole in the air. Professor Peabody's engine gave out and his machine fell into the water, but after he had made a few characteristic remarks the water was converted into steam and the steam started up his engine again. Other stragglers were summoned by a wireless message from Professor Tyler asking them to see him at once.

At the city line President Maclaurin took leave of Mayor Fitzgerald and Martin Lomasney, expressing in a few well-chosen words his regret at leaving them and the fond memories he would always cherish of their help in securing state aid. Here, too, President Lowell of Harvard met the procession and presented the keys of the city of Cambridge, with an earnest request that Harvard University might be admitted as a substitute for Course IX of the Institute. The suggestion was referred to the Com-

mittee on Special Students. On entering the campus the procession visited the civil engineering building, with its experimental railroad yard and collection of full-size model dams presented by A. R. McKim, the mechanical engineering building, with its air park for aeroplane testing, and the electrical shops, presented fully equipped by Thomas A. Edison, in recognition of the value of a technological education.

Short stops were made at the gold mine installed by the American Smelting Company for the practical work in Course III, at the vineyards and tobacco fields to be used in the preparation of material for courses in industrial biology and experimental physiology at the Hammerstein Physical Laboratory and Vaudeville Theatre, where the phenomena of sight and sound will be studied under the most favorable circumstances.

Here Edgerly and the Columbia Theatre contingent left the line of march.

In the new economics building non-resident Professor T. W. Lawson delivered a special lecture on the Education of the Public in Sound Business Methods.

As the procession moved forward it passed the Hawaiian Islands brought home by Professor Jaggar for further study and moored in the basin.

The chemistry building, on account of the smell, and the architectural building, on account of the usual uproar, have been placed a little in the rear and were not visited.

Passing between the boat-houses, where the flag of the Technology Yacht Club fluttered in the breeze and the great swimming pool filled with beer on this festal day, the procession reached the Walker Memorial student clubhouse, the Gymnasium and the Administration building. The latter costing upward of a million and a half, is the gift of the Technology Club of New York, and to this fine institution President Maclaurin paid a glowing tribute.

Professor Despradelle made a few remarks at this point which were in French. The words "magnifique" and "gloire" and "sublime" were distinctly audible. Professor Bates recited a

touching poem of his own composition entitled, "A Long Farewell to Boylston Street."

Professor Cross performed a few simple experiments illustrating a discovery of President Maclaurin's as to the method of changing Technology spirit into gold, and Professor Lanza told a new joke, after which restoratives were applied to all concerned.

At the more formal academic function in the afternoon, President Maclaurin, in conferring honorary degrees, pointed out the very curious coincidence that every one of those thus honored had contributed in a substantial way to the new plant and buildings. This showed that these gentlemen, selected as representative of all that is best in American culture and civilization, realized what Technology was doing for the progress of the world.

Of these recipients, Mr. A. Carnegie has contributed materially to library science (and to the library building for the new Technology); Mr. J. P. Morgan is well known for practical experience in hydrolysis (he gave two millions for an art museum); Mr. J. D. Rockefeller has proved himself an expert in the concentration of oils (three millions for a new chapel).

Preparations for the banquet were somewhat delayed by the appearance on the campus of a well-organized body of co-eds bearing a banner inscribed, "Smokes for Women." It had been rumored that cigarettes were to be forbidden in the Margaret Cheney Building but Dean Burton hastened to deny the report and himself offered a light to the leader of the suffrage band. The students in architecture petitioned for an additional day off in seven (making six off in all), and the petition was duly granted. For the banquet itself seven thousand plates were laid at one end of the new gymnasium. Mr. G. W. Kittredge was toastmaster. President Maclaurin pointed out that the new site and buildings would necessitate a considerable increase in instructing staff if the Institute were to go forward and not backward. This was a critical period

in the history of the school. Its prestige must be maintained. He therefore appointed a committee of the alumni to raise seven million dollars as a temporary endowment fund, pending more radical plans for really solid development. Colonel Roosevelt spoke briefly. He said that Technology graduates were all either bully good fellows or base, crawling, treacherous, sneaking liars, and he liked both kinds. The Sherman Law was bad, thoroughly bad, as bad as a judge. Its very name suggested Jim Sherman and it would not be polite to say what he thought of him. Why have laws anyway? It would be simpler to abolish laws and take a fresh *Outlook* every week.

President Taft said he felt that his old friend, the Colonel, had perhaps not grasped the subject in all its aspects. The Sherman Act might be a good act or a bad act, but nobody could really tell which. That was the kind of a law he liked. It gave so much scope for hopefulness by people who wanted different things.

Mayor Gaynor disagreed with all the other speakers, as well as with those who had not spoken at all. The trouble was not with laws or public officials. It was the newspapers and the critical people who made all the trouble for, if no one criticised, there would be no criticism, and everything would be lovely. However, he forgave them. Anyway the Sherman Law did not trouble him, because in spite of it New York was the best governed city in the world and as long as there was a Technology Club at 17 Gramercy Park, he was satisfied that all was well.

Famous Chapel is Undergoing a Big Change

(From *The Tech Push*)

"It ain't like the old days," said Dick, the rector of the Chapel on Boylston Street, as he emphasized his grammar with a bang of a bungstarter. "Nope, when the old gang was here there was something doing all the time, but now with Ike Litchfield and Dean Burton

steering the freshmen to Cambridge, the good times are gone." He sadly flicked a few kernels of pop corn from the bar and rearranged the pretzels and cheese.

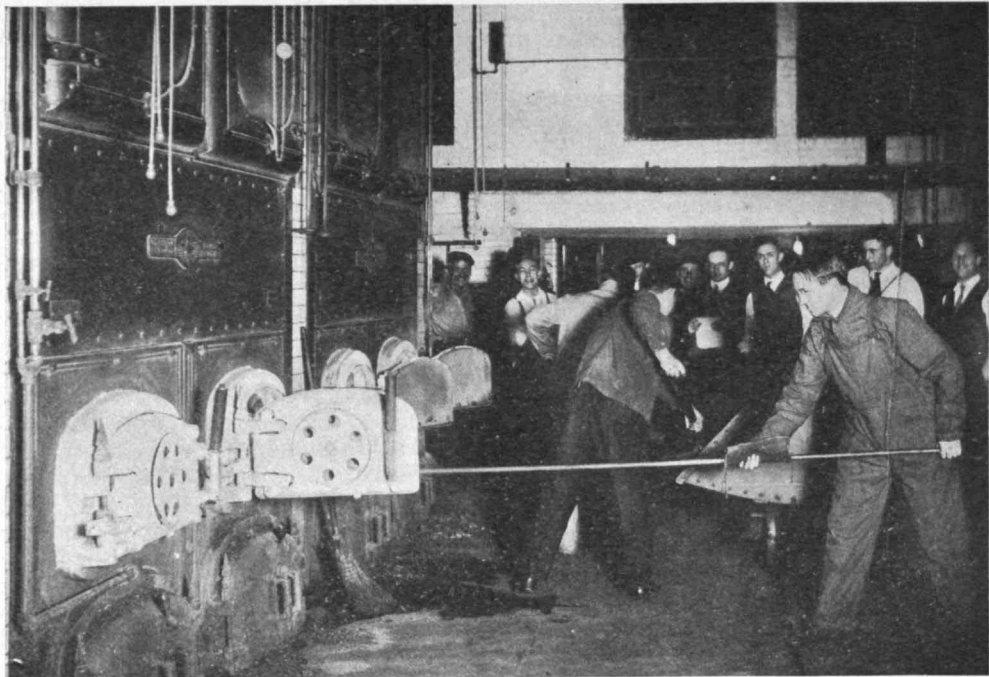
"In the afternoon when McKim and those sports blew in and started something, I tell you two hands and the automatic pump couldn't keep up with the replies to 'What'l t be gents?' Never thought Mac would turn out to be a water expert. But I suppose the pace those fellows set down at the New York Technology Club, made him glad to devote his life to helping Tammany govern New York State."

Casting an eye into the empty pool room his dejected looks showed that the closing of the old place had aged him more in the last few days than years had previously. "Bill King," he commenced, "looking so ministerial, would come in for evening service regularly and politician that he was even then, would see that all the boys were taken care of. The famous Lounger was always with him and their merry quips would keep the whole place in an uproar.

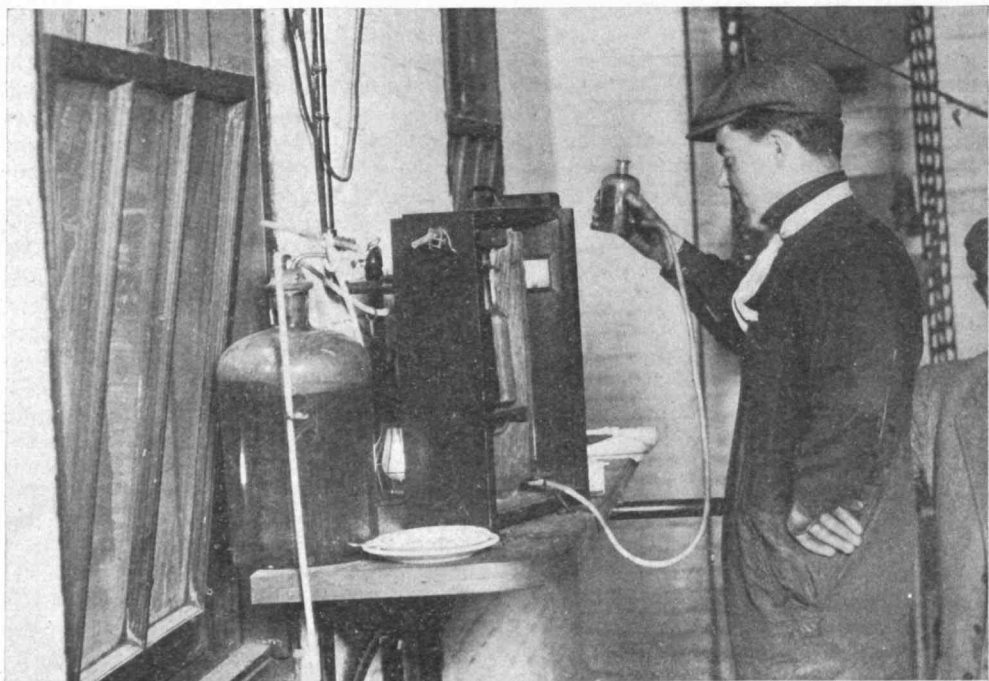
"Gelett Burgess always called for milk punch. I never knew why till later when I heard that one night after having had several of my shakes he dreamt of a Purple Sow and became famous. Them was the happy days.

"Waldo Smith used to have a wild scheme he always was talking about. He wanted to tunnel Boylston Street and run a beer aqueduct over to Rogers, so that the Yacht Club and Tech Board would be able to hold their meetings without having to resort to the old-fashioned methods of transporting liquid refreshments in tin. They tell me that later he worked the idea on a large scale in New York, running a tunnel from the Catskills to Wall Street, as recently there has been a water shortage in that district."

The New Popular Song, "Cuddle Up and Join the Club," as sung by Schnutz, the Caruso of Flatbush, can be heard without cost at any time by any one not a member of the Technology Club, by applying to the Membership Committee.



Cleaning the Fire



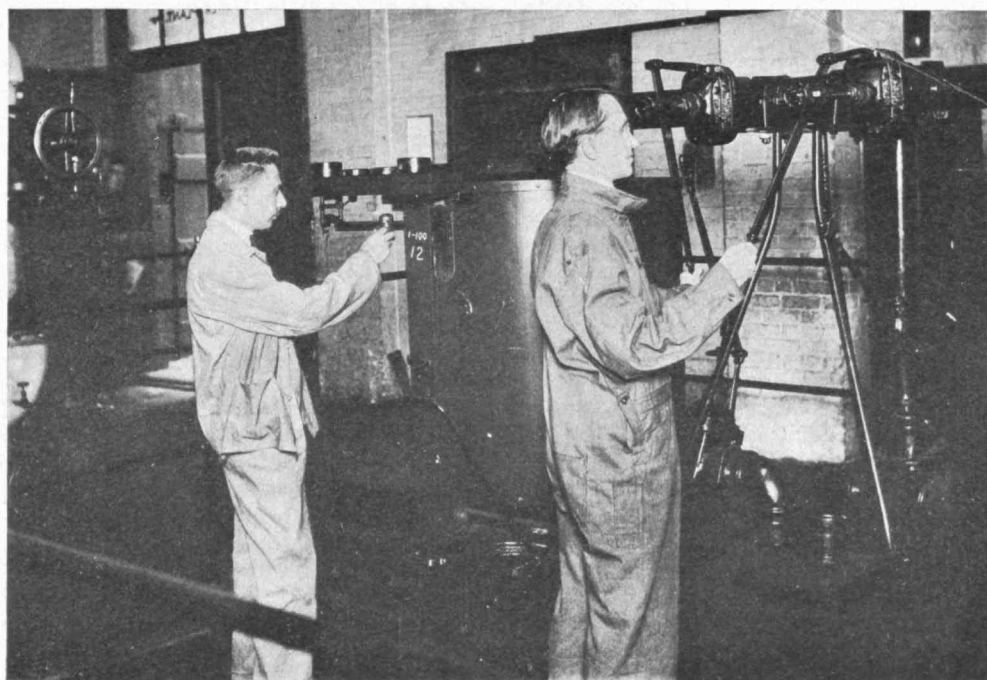
Flue Gas Analysis

(Courtesy *Boston Post*)

96 HOUR PLANT TEST



Apparatus for Weighing the Coal



Weighing the Condensed Steam

(Courtesy *Easton Post*)

96 HOUR PLANT TEST

Inspired by the Catalogue

With the \$2,750,000 required in sight for Tech, and with the building up of the opposite bank of the Charles River Basin with architects' work comparable to the "White City" in sight for Boston, it becomes more than usually worth while to look through the thick volume of the Bulletin and Catalogue of the Institute of Technology, just out. One sees at a glance why Technology does not figure in the sporting pages of the newspapers! The students there have all they can spring to, without competing with other colleges to furnish gala days for "sport fans" and "straight dope" for the betting fraternity. Not that there are no athletics at Tech; the gymnasium (on Garrison Street) is open to all students free, and not only that, but all students are required to take two hours a week of work there, prescribed after physical examinations from which anthropometric charts have been plotted. The distinction of Tech athletics is that all the students take part, not delegating them to a dozen or two overtrained champions of the multiple prize-ring presented in the spectacular football games for the public.

* * * * *

The Institute's development without the aid of that "publicity" (the polite modern name for advertising) which is gained in the intercollegiate games is a most valuable testimony. It strengthens the hands of those who are struggling, against the popular tide, to redeem the "college spirit" and turn it towards scholarship. Millions, it seems, after all, can be conjured at need—to consider only the money question—without confiding the name, standing and destinies of an institution to the football team. As the Bulletin says, the "standard of scholarship is inconsistent with an excessive devotion"—to social and athletic activities. The curriculum differs from that of ordinary technical schools in requiring a larger proportion of liberal studies in literature and general science. The Institute differs again from the ordinary university in that broadly specialized

professional work is closely interwoven with the cultural studies.

* * * * *

Five years are taken up in the complete course for the degree of bachelor of science. There is a bewildering choice of courses in civil engineering, mechanical engineering, mining engineering and metallurgy, architecture, chemistry, electrical engineering, biology and public health, physics, chemical engineering, sanitary engineering, geology and geodesy, naval architecture and marine engineering, and electro-chemistry. But along with these go lectures, theses and examinations in general science, history, languages, literature, art and economics. The ideal Tech man, it will be seen, becomes not only a full man—that is, one who has been well filled up—but also a broad man, one who has been carefully shown a wide outlook upon the world in all its phases—one who is granted a vision of the highest and deepest things of the spirit—the means of making the most of life, if he will, as well as his "bread and butter" or his millions.—*Boston Transcript*.

Death of Sidney A. Malcom

Sidney Arnold Malcom, '10, died Wednesday, January 3, at his home in Somerville. After being graduated from the Institute, Malcom was able to work for only about two months on account of failing health. In the winter following his graduation he went to a sanatorium at Loomis, N. Y. His health was too far undermined, however, to allow of his recovery. Mr. Malcom was born in Somerville in 1883 and attended the Bell School and English High School at that place. He entered the Institute in 1906, taking the course in Sanitary Engineering. He took a prominent part in undergraduate dramatic affairs and was the author of the Tech show entitled, "That Pill Grimm." He had a host of friends not only in his own class, but the whole undergraduate body.

The new Alumni Fund will be the supreme effort of former Technology students for Alma Mater.

Which Consists of the Modest Little "Froude," But the Tiny Craft Does Important Research Work in Shipbuilding Science

The following article by John Ritchie, Jr., was published in a recent number of the *Boston Transcript*:—

That the Massachusetts Institute of Technology has a navy of its own is not generally appreciated, for the school is looked upon popularly as a land college. It is true, nevertheless, that the principles of engineering and construction on land and sea are so much akin that the Institute has a department of naval architecture and marine engineering so well established and in such good repute that the United States naval constructors are required to take its courses. It is also true that the navy and the mercantile marine are so willing to permit tests to be conducted on board their vessels that the Institute does not need a great navy of its own, and this is, indeed, very modest—a single little vessel, the *Froude*, which in the summer season lies in the Charles River Basin, and whose favorite testing ground is over against the farther embankment beyond whose Esplanade Technology hopes presently to find its new home.

The story of the *Froude* has just been presented by Professor C. H. Peabody, the head of the department at the Institute, in a technical paper before the Society of Naval Architects and Marine Engineers, where it received flattering attention, and is to be published in the *Transactions of the society*. Despite the fact that it deals largely with the logarithms and graphic figures that appeal only to the initiated, the paper does present a number of features that are of popular interest and, what is still better, of consequence to the marine world, which is still solving some of its important problems by the old method of rule-of-thumb.

In beginning his paper Professor Peabody stated that the inception of these

experiments was due to the late Dr. Charles G. Weld of Boston, a representative of an old New England family and himself an enthusiastic yachtsman. He conceived the idea that certain distinct advantages are to be gained in making experiments with reference to the propulsion of ships by the aid of navigable models. He accordingly undertook to provide the financial means, intrusting the execution of the ideas to Professor Peabody. The preparation of the model and its machinery and the carrying on of the experiments have been the work of the department in the Institute.

The *Froude* is built on precisely the lines of the United States revenue cutter *Manning*, which was tested in 1899 by Professor Peabody. In its dimensions it is about one fifth the length of the *Manning*, with tonnage in proper proportion, and while it is called a model, the *Froude* is really a miniature ship, which handles and behaves like a ship and not at all like a steam launch. This in itself is an interesting point.

The vessel was built at Marblehead and fitted and furnished in the Charles River Basin, where the experiments have been carried on. It is indirectly propelled by a gasoline electric generating set and an electric motor with chain drive to the propeller. The disposition of the propulsive machinery is favorable to tests as to efficiency, and all kinds of investigations have been made here to eliminate any sources of error within the machinery. The boat is frequently painted on the hull, proper draught marks are painted on stem, stern and amidships, a compensating water tank is arranged so as to maintain the proper displacement and trim, and observations are made to show that the hull does not change its shape. The runs are made with only the

proper crew on board. The *Froude*, therefore, may be seen to be an experimenting laboratory and has many items not usually in the furnishing of a ship, means of measurement, sights for alignment and the like.

The purpose of a boat is to go through the water, so the experiments of the *Froude* have been a series of speed trials over a measured course an eighth of a knot in length or in some cases, a quarter of a knot. The course is parallel with the sea-wall on the Cambridge side of the basin, where the water is fairly well protected from the prevailing winds. Professor Peabody reports the conditions to be as nearly ideal as may be possible in an unenclosed space. There is sufficient depth of water, twenty-two feet, which is unaffected by tidal or other currents, excepting the surface currents due to the wind, and to avoid these the early morning hours—4 to 8 a. m.—have been generally utilized. There is then also little interference from other vessels.

WHAT THE "FROUDE" DOES

For making the records a chronograph is used bearing a number of pens noting different matters under observation. The chronograph may be run at any desired speed; it is mounted on rubber pads so as to receive the minimum vibration from the hull and is always under the eye of an observer who indicates beginnings and ends of runs and other matters of consequence that an automatic instrument cannot be expected to take note of. Under ordinary circumstances one pen marks the thrust of the propeller, another one the number of turns of the propeller, while still a third gives the notches—every half-second—that indicate the time, while other pens are in reserve for incidental uses whenever they may occur. The thrust of the propeller is weighed directly and a continuous record is made of the pressure. For purposes of accuracy the *Froude* departs somewhat from normal constructions and introduces devices that might be too costly or too "fussy" for practical work. Thus, the thrust block has ball bearings and the shaft-log is filled with oil under

a head, so that there is slight oozing while the vessel is under way.

The work of the summer of 1910 was first to install, adjust and rate the machinery to determine the limitations and to make tests with a propeller that had been prepared according to the working drawings of the *Manning*. The practical work with the propeller included two items that have not hitherto been thoroughly investigated; namely, wake gain and trust deduction. Wake gain, due to the fact that the wake is following the ship, is a push that tends to send the ship forward while thrust deduction is a suction and tends to hold the ship back.

The most important result of the first season's work with the *Froude* is the knowledge that its results can claim a precision within one per cent. for tests at full power and speed and at lower speeds within two per cent. at four knots.

With this knowledge of the accuracy of the results of the ratings Professor Peabody notes that the experiments show certain anomalies, especially for low speed and power, which are too well marked to be due to errors or uncertainties, and among them certain curious variations of the wake, and especially the indication of negative thrust deduction. It will be interesting, indeed, to find that this "push" against the vessel may under some conditions become a "pull." And it is very important when one realizes that this Technology authority believes the degree of accuracy possible in this work may reveal real anomalies in the accepted conventions concerning the relations of hull and propeller.

STUDYING THE PROPELLER

In the *Froude* the intentional construction is such that it permits of the placing of the propeller in different relations to the hull and at different distances, so that experiments have been made in the different situations. Six inches astern of the sternpost in the *Froude*, showed an improvement of twelve per cent. in the performance. This is an important matter; and while in the *Manning* with a corresponding distance of thirty inches the setting of the propeller thus would be

impossible on account of existing constructions, "still in a new design," writes Professor Peabody, "such a setting would be possible and would appear to have a distinct advantage."

One of the important results from the experiments with the *Froude* is the confirmation that they give to the determinations made with the *Manning* itself. It gives definite standing to an investigation of consequence and proves the results to be reliable to the degree possible with the methods then in use for recording.

As a piece of correlative investigation another model of the *Manning* was made in the shops of the Institute one eighth the size in length. This was sent to Washington to be tested in the great towing basin of the navy yard in that city. The work with this smaller model has been of interest and value, since it gives an independent means of confirming certain observations and, at the same time, through the fact that it is towed under scientific measurements, there can be a separation of some of the factors from the uncertainties that invest "skin friction" and other contact problems of vessels.

The experiments of 1910 showed for one item an unexpectedly large influence from the broad sternpost of the *Manning*, there being a little eddy formed in its shadow. In the *Froude*, therefore, a "fairwater" was fitted to the post, a triangular bit of wood, filling the space and preventing the eddy. This permits of the results from the *Froude* being utilized more directly with the ordinary steamship. It would appear, however, that the fairwater had but small effect on the resistance of the hull.

THE BEST PROPELLER

The work with the *Froude* during the past season has been to find out about the efficiency of different forms of propeller, using three of these, two of which were of abnormal pitch, according to the conventions of today. "It has not been possible as yet," writes Professor Peabody, "to analyze the tests this year for wake, thrust-deduction and hull-effi-

ciency, but the conclusion that change of projected area-ratio and pitch of propeller have comparatively small effect on propeller performance is so inevitable that it is thought best to present so much of our work as is now ready." The variations in the models are so much greater than are ever likely to be assigned to any given design even by engineers who differ widely in practice, that we may conclude that the true efficiency of well-designed propellers is little affected by ordinary variations of pitch and width of blade, and to this may be added that all varieties of propellers having oval forms of blades are sensibly equal in efficiency. If there were nothing more done by the series of investigations in the Technology naval laboratory, the *Froude*, than the settling of the fact that all the differences between the different schools of propeller makers are in practice negligible, the result would have been sufficient reward for the labor, for it will bring the makers into accord and give them the assurance that they can use any well-designed propeller.

Another of the lines of experiment has been the towing of the *Froude* by a tugboat, the propeller of the model being removed. From the fact that it is a laboratory furnished with delicate measuring apparatus a number of matters have been tested under actual conditions in the open. Resistance at various speeds is among these, and a means of comparison is thus afforded with the results of towing the smaller model in the Washington Basin. The agreement between the two series of figures is good when some conditions of finish are considered—for example, that the *Froude* is painted while the other model is varnished.

It is unfortunate that the death of the supporter of the work has caused it to be at the risk of stopping in mid-course, with most important plans in view, a portion of which concern the coastwise steamer, whose advantages and whose disabilities, if any, could be accurately determined as have been those of the naval vessel. This is naturally of great importance to the merchant marine, and it was Professor Peabody's intention to build another laboratory in the form of

the familiar passenger and freight steamer plying along the shores of the country, about which very little is known in a definite way. There is also the tugboat type which is calling for investigation.

Professor Peabody notes that the fitting and adjustment of the machinery and apparatus was done in the Charles River Basin mainly by the mechanics of the Institute, under the direction of Professor Harold A. Everett, who also developed the chronograph with which the records were made. He has had charge of the experiments during the seasons of 1910 and 1911.

Toward General Engineering

One of the tendencies at the Institute that particularly impresses an onlooker is that of giving more time to the fundamentals and less to options and other specialized work during the regular four-year course. That this tendency is in the right direction cannot be doubted. It is a principle on which the Faculty are a unit and it is thoroughly approved by students of education in the ranks of practical engineers. There is a great demand from alumni sources that options in the line of particular developments of industry be given, and as time goes on, the number of these grows very large. While these options are desirable for a limited number of students who have special reasons for taking them, the members of the instructing staff are constantly studying how to impart general information in such a way that students will get fundamental ideas on the various subjects. The recent innovations in the mechanical engineering department have been very generally endorsed and the good results of the new plan are obvious. The engineering students get the benefit of general lectures on all of the options and then have the information necessary to intelligently decide what special work they wish to take up. This is working toward the end that the Institute has constantly in mind, the furnishing of a broad education which shall be based on a knowledge of principles rather than expertness or dexterity in specialized work.

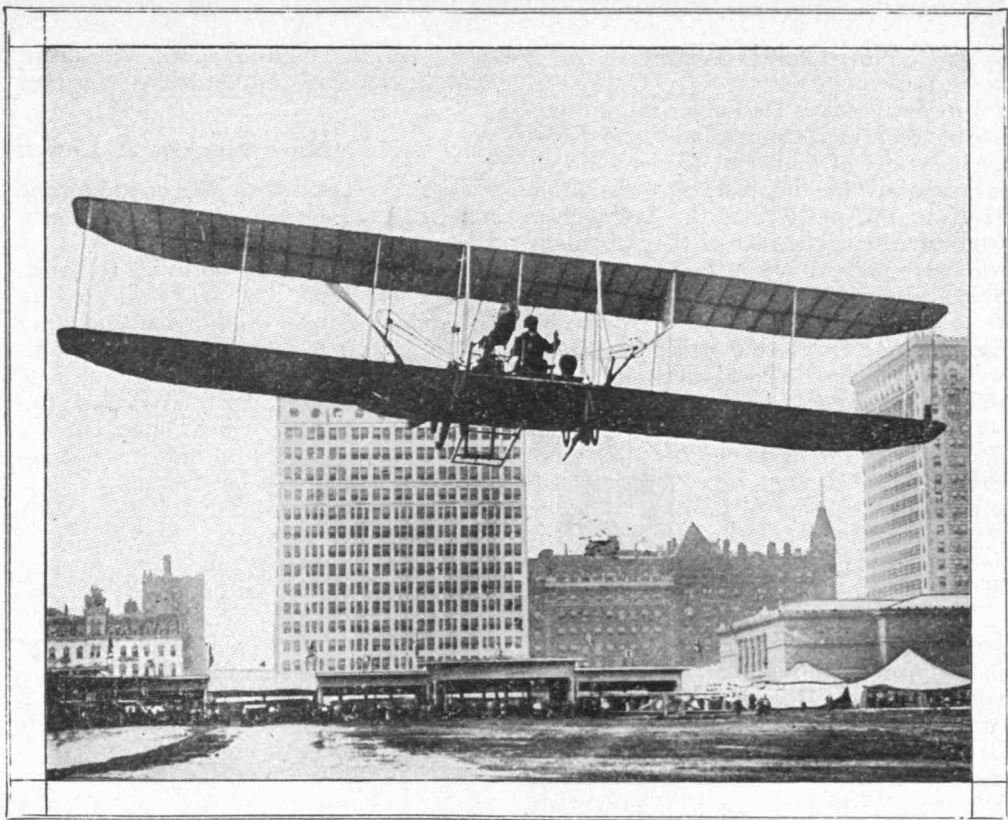
Scientific Yacht Measuring

A movement is on foot among the yacht clubs in this vicinity which may lead to the appointment of one official measurer for the Eastern, Corinthian and Boston Yacht clubs and the Yacht Racing Association of Massachusetts. It is believed that the other clubs in this state will also join in the movement. It is proposed to place the measuring in charge of the department of naval architecture and marine engineering at the Institute. Professor Peabody has been consulted and will appoint an assistant professor of the department to act in this capacity, if officially requested. Such a man would have the necessary technical ability and his services could be procured on the basis of measurement fees now prevailing.

The appointment of one official measurer for all the clubs in Massachusetts would remove many awkward situations and furthermore all measurements would be made under the same procedure and under the same interpretation of the rules.

Professor Peabody agrees that for determining the displacement, boats should be weighed as far as possible, but thinks that on larger boats the lines should be taken off and an accurate determination made of the displacement. By means of simple apparatus lines could be taken off in half a day without great expense, at any time a boat was hauled out. It would, of course, be necessary to safeguard this matter, by providing that lines so taken off should be kept strictly within the department of naval architecture and marine engineering of the Institute of Technology, and that nobody outside of the instructing staff of the department should be allowed access to them, except on the written permission of a boat's designer.

Any measurer must of necessity perform his duty in accordance with the letter of the rules; but if any changes in the rules were contemplated, owing to boats being built outside the spirit of the rules or for other reasons, his opinion, which would really be that of the department, should be exceedingly useful and valuable in formulating new rules.



Harry Atwood, '05, leaving Chicago in his spectacular flight from St. Louis to New York—a distance of 1,265 miles.

(Courtesy of *McClure's Magazine*)

Concerning the Massachusetts Institute of Technology

Many readers of the *REVIEW* will remember a very well-edited volume entitled, "Concerning the Massachusetts Institute of Technology," which was published by undergraduates of the Institute two years ago. This edition was financed entirely by students and a sufficient supply was printed at that time to provide freshmen entering the Institute with the book and also for circulation among those making inquiries about the educational and social conditions here. The edition is about exhausted and the Institute Committee at a recent meeting voted to publish a new edition of the work with E. B. Germain, '13, as editor-in-chief. This labor of love by

the undergraduates is a remarkable expression of the spirit of Technology. Not only is the enterprise unusual, but it is being most creditably performed and its service for good can hardly be estimated.

Professor Pickering Honored

Professor Edward C. Pickering who was on the instructing staff at the Institute from 1866 to 1877, being Thayer professor of physics from '68 to '75 and also director of the Rogers laboratory from '75 to '77, and who is now director of the Harvard College Observatory, was elected president of the American Association for the Advancement of Science at the annual meeting in Washington last December.

New Club in Albany

On Wednesday, December 20, a number of Tech men from Albany and Schenectady met at dinner at Keeler's Hotel, in response to the call of Alex. Rice McKim, '86, and formed the Technology Club of Albany. Most of the Albanians who were present are in the service of the State, especially the water board, highway commission and the conservation commission, the latter being unusually well represented, while practically all of the Schenectady contingent are connected with the General Electric Company. It is a remarkable fact that these two groups of engineers living within seventeen miles of each other, seldom, if ever, meet in a business way; that such a condition exists is an indication of the broad training of the Institute.

The evening was enjoyably passed in becoming acquainted and several men made impromptu remarks. Among those who spoke were Doctor Whitney and Mr. McKim, the latter speaking about the dams in New York state which it is his duty to inspect. The next dinner, which will be held in February at Schenectady where there are about thirty-five Tech men, will give further opportunity for getting together.

The following men were present during the whole or part of the evening:—Alex. Rice McKim, '86; Frederick Mackintosh, '86; Willis R. Whitney, '90; C. Hancock Wood, '91; Howard R. Sargent, '93; John D. Moore, '95; John Dyer, Jr., '95; William D. Coolidge, '96; Charles V. Merrick, '00; R. Suter, '00; Waldo G. Wildes, '01; N. J. Kingsbury, '02; Walter P. R. Pember, '02; S. Haar, '04; Albert O. True, '05; Charles A. Holmquist, '06; Edward H. Sargent, '07. All were very enthusiastic and the club's future seems bright. A. G. Davis, '93, will address the Schenectady section of the A. I. E. E., January 2 on "Some Proposed Changes in the Patent System," and Professor D. F. Comstock, '04, from the Institute will lecture before the same body February 6 on the "Modern Theory of Electrons." The officers elected are Alex. Rice McKim, '86, presi-

dent; W. R. Whitney, '90, vice-president; Selby Haar, '04, secretary-treasurer.

John A. Faulkner Stricken at Lowell

John A. Faulkner, '76, a prominent mill man of Lowell died in that city December 21, of apoplexy.

Mr. Faulkner was born in Billerica, March 14, 1855, and was educated in the public schools of Billerica and later at the Massachusetts Institute of Technology. He was admitted to the firm of L. W. Faulkner & Son, woolen manufacturers in 1879, which later became known as the Bay State mills, a portion of the American Woolen Company. Mr. Faulkner was agent for the Bay State mills for several years. Mr. Faulkner for many years took an active interest in political affairs, although he himself never sought office. However, on July 3, 1894, he was prevailed upon to accept a position on the Board of License Commissioners and, although a Republican, was made chairman of the board. He continued a member until 1900.

Mr. Faulkner was prominent in social circles in Lowell. He was a fine type of citizen interesting himself in the public good and an effective worker in any cause that enlisted his attention. He was much sought after for advice in public matters. He is survived by a wife, one son, Luther W., and the Misses Marion and Catherine Faulkner.

Noted Metallurgist at Tech

Dr. Ignax Schilowsky, of Aix-la-Chapelle, a distinguished expert in his own country, has recently come to the Institute to pursue research work in the laboratories of the mining engineering department. He is a graduate of the Polytechnic Institute of Aix-la-Chappelle where exists the most celebrated department of metallurgy on the continent. This is the line along which Doctor Schilowsky is working. He is continuing some important investigations in the electro-smelting of copper ores and the refining of metallic copper which he began at the Polytechnic Institute abroad.

PRESIDENT'S SPEECH AT ANNUAL BANQUET

Review of a beneficent year—The Alumni the main prop of Alma Mater—The serious responsibility before us

A few days ago, I had the temerity to read the record of last year's banquet, and it seemed to me that on that occasion I must have worn unconsciously the mantle of a prophet. This for me is so unusual a robe that I was puzzled how I assumed it, until I was reminded by the doctrine of the lower critics that prophetic utterances that come true are to be ascribed to the zeal and ingenuity of later editors rather than to the foresight of the authors to whom they are ascribed. In plain terms, I suspect that Mr. Litchfield is quite as responsible as I for the prophecies that he put into my mouth. He made me say that the year that has just passed would be a veritable *annus mirabilis*, a year of wonders, and with a boldness of utterance worthy of a master prophet he ventured to specify some of the events that would render the annals of this year remarkable. In the first place he said that the site problem would be practically solved; so it has, and if any one feels that it has not been well solved, let him stand forth now, or forever hold his peace. It has been solved by the co-operation of many, but no small share of the credit is due to far-sighted and public-spirited citizens of Cambridge, who urged us to go to that city, and worked hard to remove such obstacles as presented themselves. Foremost amongst those workers has been the mayor of the city, who has proved his capacity to look at a large question broadly and deal tactfully with difficulties that arise. If the necessary legal formalities, that must be observed before we can get title to this land, go forward, as of course we hope they will, without further hitch, then it will be the duty of Technology to show its appreciation of the good-will of the citizens of Cambridge by rendering such special service to the city as lies within its powers. Three

things it can and will do as soon as opportunity presents itself. First, it will place its laboratories, and within reasonable limits the powers of its experts, freely at the service of the city government, as it has long done for the city of Boston, and will always continue to do, whether it remains partially in Boston or not. For months various departments of the Institute have been making tests of materials for the fire department of this city, determining, without cost to the city, the best hose for special purposes, the proper type of engine and so on, a form of civic service that the Institute is ready and able greatly to extend. Second, it can open its grounds to the citizens of Cambridge, especially during the summer, when these grounds are not in constant use by a large section of the student body. Third, it can give some special facilities to youthful Cambridge by way of scholarships. Poor and meritorious students, whose parents are citizens of Cambridge, will be assisted by a remission of the whole or part of the tuition fee, according to their needs and merits. This remission may be granted in any year, including the freshman year, and may be repeated from year to year in case of sufficient merit. Thus, an avenue will be open for the poorest boy in Cambridge to what Mr. Edison has recently described as "the salvation of America,—the Massachusetts Institute of Technology." If the Cambridge matter goes through, the first freshman scholarships will be available next fall, and the number granted will be determined in part by the number of meritorious applicants that present themselves. Of course, the standards of the Institute must be kept high, and no one can be admitted to a scholarship unless he satisfies the scholarship committee that he will be a distinct credit to the Institute.

To revert once more to Mr. Litchfield's prophecies, he made me say that the year would be remarkable for the solution of the site problem, the issue of the campaign for increased state aid, and the success of the Congress of Technology. I observe with pleasure that honors come as they deserve to come to the "father and the mother" of that congress, Mr. Arthur D. Little. A day or two ago, he was called to the high office of president of the American Chemical Society, and tonight we have been told that he has been nominated for membership on the Corporation of the Institute, where his energy and the fertility of his imagination will be invaluable. Now, all these three great successes to which I have referred have been due to the same cause, the method and spirit displayed in attacking the problems that were presented. Each success has been a veritable triumph for the alumni. DuPont solved the site problem; Little and the other alumni with whom he surrounded himself, assured the success of the Congress, not the least of the subsidiary successes being due to Peirce, the genius of the great banquet that closed the proceedings. Finally, J. W. Rollins, whom we all rejoice to hail as our next president, fixed the legislature and the governor. Even good old Homer sometimes nods, and Mr. Litchfield and I have to apologize for the fact that our prophecies failed to include another great success of the year, which is also due to the alumni. I mean the securing of a site and equipment for the summer school in Maine, a more important matter than most of you probably realize, and due to Eaton and that nameless one whom we all so highly honor and respect.

After such a year's experience, it can cause no surprise if I look for the solution of our problems more and more to the alumni. You may know that in England the legal profession is separated into two distinct branches, solicitors and barristers. An extremely successful solicitor was once asked how he managed to carry so great a load of business so successfully and yet apparently so lightly. He replied that it was a very easy matter,

"All that I have to do is to distinguish hard cases from easy and routine ones. The latter I hand over to the office boy, the former to the barristers; I have nothing else to do but collect the fees." I referred to this once in conversation with a distinguished college president, who remarked, "Why, that is exactly my position; I, too, have merely to distinguish easy and routine from hard and complex; the easy and routine matters I turn over to the Corporation, the hard and complex to the alumni; all that is left is to get credit for what is actually accomplished." It seems to me that there is a germ of wisdom in that policy. Of course, the alumni of any institution that amounts to anything must be its greatest asset; they really create its prestige, and the community judges it, not by its claims and its airs, not by its wealth or numbers, but by the actual accomplishments of its men. It is because so many Tech men have made good in their chosen professions that in the last year we have had so much evidence of good-will from the community at large. Apart from this, however, the alumni of the Institute form an increasingly valuable asset because of their readiness to give thought, time and energy without stint to the solution of the great problems presented by its advancement, and so I feel that I need make no special appeal to you to take a hand in the solution of the greatest problem that lies before us today—the building of the New Technology.

The proper solution of this great problem needs money and brains; it is a large problem involving many subsidiary questions before the whole can be successfully carried to a conclusion. There is what may be called the *engineering* question, what is the proper relation of the different buildings to one another to give the maximum of convenience at the minimum of cost; what is the right size and the right disposition of rooms within each building, and what is the arrangement that best permits of expansion to meet the needs of the future,—needs that at best can only be guessed at? Then there is the *social* question,

one of the most important and one that has been answered less satisfactorily in the past than any of the other great questions with which Technology has been confronted. Some provision must be made to facilitate a healthy social activity amongst the students, and no one familiar with the influence of the fraternities in our midst can doubt for a moment that such social activity will make for good amongst us. We must have student houses and we must also have as the common center a Walker Memorial in every way worthy of that great humanist. Last, but by no means least, there is the *architectural* question. If we do not rise to the level of this great question we will commit a crime against Technology students for generations to come and a crime against the whole community in which they live and move. Ours is a unique opportunity and unique responsibility. We are building, if not for all time, at least for a time that must seem long in the life of any individual. The Institute itself will never die, and for many a generation it must carry in its outward form the impress that we put upon it now. What is that impress to be? Will it adequately express the ideals of the Institute, the nobility of its purpose and the dignity of its work? Will those ideals be presented as impressively and as beautifully as by the towers and spires and other architectural features characteristic of the great churches of the Middle Ages? If they do not, it will be a permanent slur on our intelligence and on our taste, for the ideal of education for which the Institute stands is as noble an ideal as any that can be expressed by form, and it is pre-eminently *the* ideal of the thoughtful section of the American people today.

Information from the Catalogue

The new catalogue shows an enrollment of 1560 students of which 312 are regular members of the freshman class; 257 of the sophomore class; 257 juniors and 280 seniors. There are 67 special students and 349 unclassified.

Of the 4300 graduates, 1361 have

remained in Massachusetts, while 713 have taken up their work in New York. Washington has 111 Tech graduates while 117 of them are at work in the Canal Zone. Pennsylvania with its manufacturing and mining interests, employs 286 graduates, 220 are in Illinois and 113 in California. No state is without its graduates, Arkansas, Mississippi, North Dakota and Wyoming joining in having the minimum of three each. Fourteen graduates are in the Philippines, 68 in Canada and the other British North American colonies, 22 in Continental Europe, 16 in Great Britain, 9 in South America and others in the Orient and the Antipodes.

One interesting item that the catalogue divulges is that the young men have stuck pretty well the world over to the profession gained at Tech, only six per cent. of them being now enrolled in other work. The United States Government uses 151; the states, 53 and the cities, 147. Three hundred and nineteen of them have become teachers.

There are 26 funds to help deserving undergraduates and 7 others for advanced students. Some of these funds are distributed by confidential friends of the donors in such a quiet way that nothing is ever known about their distribution.

Technology Women's Association

The annual luncheon of the Technology Women's Association was held January 6. About fifty members were present and the general topic of the speakers was the life and work of the late Ellen H. Richards, '73. Among the speakers were Mrs. Mary H. Abel of Baltimore, who spoke of Mrs. Richards' early work for the New England Kitchen Association, and Miss Caroline F. Hunt, who told of the biography of Mrs. Richards she is now preparing. The other speakers were Professor R. H. Richards, '68, and President Maclaurin. The officers elected were Margaret E. Dodd, '92, president; Mrs. Stanley McCormick, '04, vice-president, and Miss Elizabeth Babcock, '09, secretary.

THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Boston, Mass.

THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY aims to give thorough instruction in *Civil, Mechanical, Chemical, Mining, Electrical, and Sanitary Engineering; in Chemistry, Electro-chemistry, Architecture, Physics, Biology, Geology, and Naval Architecture.*

To be admitted to the Institute, the applicant must have attained the age of seventeen years, and must pass examinations in algebra, plane and solid geometry, physics, history of the United States (or ancient history), English, French and German. Preparation in some one of a series of elective subjects is also required. A division of these examinations between different examination periods is allowed. In general, a faithful student who has passed creditably through a good high school, having two years' study of French and German, should be able to pass the Institute examinations.

Graduates of colleges, and in general all applicants presenting certificates representing work done at other colleges, are excused from the usual entrance examinations and from any subjects already satisfactorily completed. Records of the College Entrance Examination Board, which holds examinations at many points throughout the country and in Europe, are also accepted for admission to the Institute.

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The regular courses are of four years' duration, and lead to the degree of Bachelor of Science. In most courses the work may also be distributed over five years by students who prefer to do so. Special students are admitted to work for which they are qualified; and the degrees of Master of Science, Doctor of Philosophy, and Doctor of Engineering are given for resident study subsequent to graduation. Opportunity for research is offered in all the departmental laboratories, in the three recently established Research Laboratories of Applied Chemistry and Physical Chemistry, and in the Sanitary Research Laboratory and Sewage Experiment Station.

The tuition fee, not including breakage in the laboratories, is \$250 a year. In addition, \$30 to \$35 per year is required for books and drawing materials.

For catalogues and information, address

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